

**Remarks/Arguments:**

Claims 1-8 and 13 were pending in this application. With this response, dependent claims 14 and 15 have been added. As noted by the examiner, support for this amendment is found in the application at, for example, page 3, line 28. Upon entry of this amendment, claims 1-8 and 13-15 are now the pending claims in this application.

The applicants acknowledge with appreciation the Examiner's indication that claims 1 and 7 would be allowable if amended to include the following limitation "and wherein the SCR catalyst comprises a V<sub>2</sub>O<sub>5</sub>/WO<sub>3</sub>/TiO<sub>2</sub> catalyst, supported on a honeycomb through-flow support." The applicants have added this subject matter to the claims as dependent claims 14 and 15 but believe, for the reasons discussed below, that independent claims 1 and 7 are allowable without this subject matter.

Independent claims 1 and 7 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Alcorn (US 4,912,776) in view of Frederiksen et al. (WO 97/43528) or over Alcorn '776 in view of Yavuz et al. (US 6,274,107). Thus, both of the prior art rejections of the independent claims rely on Alcorn '776 as the primary reference. As explained below, the Office Action includes a misinterpretation of Alcorn '776 and, consequently, the rejections relying on it as the primary reference should be removed. Moreover, the Examiner has taken a position regarding the scope of the claims which is contrary to the clear language of the claims.

Turning first to the issue regarding the scope of the claims, the applicants refer the Examiner to page nine of the Office Action, which reads,

Further, various combinations of order still remain possible within the instantly claimed invention. For example, the instantly claimed injection means could be arranged between the oxidation and SCR catalysts or after both.

See page 9 of the Office Action.

The applicants respectfully submit that the Examiner is mistaken with respect to the assertion that "various combinations of order remain possible." In particular, claims 1 and 7 recite: an oxidation catalyst; a particulate trap *downstream* of the

oxidation catalyst; an injection means for injecting reductant fluid *downstream* of the particulate trap, and an SCR catalyst *downstream* of the injection means. Because the claims specify that the injection means is located *downstream* of the particulate trap and that the SCR catalyst is located *downstream* of said injection means, then the injection means must be located between the particulate trap and the SCR catalyst. Stated another way, the claims specify the following four features in order heading downstream: (1) an oxidation catalyst; (2) a particulate trap; (3) injection means; and (4) an SCR catalyst. In view of the claim language specifying a particular order, the conclusion reached that "various combinations of order remain possible" is incorrect.

Further, as stated previously in the response dated March 31, 2003, the arguments of which are incorporated herein, the order set forth in the claims is critical to carrying out the purposes of the present invention. See MPEP § 2144.05. As noted previously, on page 2, lines 24-31 of the application, the applicants "have surprisingly found that a 'pre-oxidizing' step, which is not generally considered necessary because of the low content of CO and unburnt fuel in diesel exhausts, is particularly effective in increasing the conversion of NO<sub>x</sub> to N<sub>2</sub> by the SCR system." Moreover, page 4, lines 22-30 emphasize the significance of placing the particulate trap downstream of the oxidation catalyst and, by noting the relative ease of combustion in the presence of NO<sub>2</sub>, upstream of the SCR of NO<sub>x</sub>. Consequently, the recited order of features is critical to carrying out the purposes of the invention and imparts, along with the other claim features, patentability to the pending claimed.

As mentioned above, certain statements made in the Office Action reveal that Alcorn '776 has been misinterpreted by the Examiner. In characterizing Alcorn '776 in connection with both rejections of the independent claims (pages 2 and 4 of the Office Action), the Examiner states that Alcorn '776 discloses an SCR system for treating NO<sub>x</sub> in exhaust gas comprising a first oxidation catalyst effective to convert NO to NO<sub>2</sub>, a source and injection means of reductant fluid wherein the SCR system catalysts are located both down and upstream of the injection means. This is a slightly different characterization of Alcorn '776 than the previous Office Action in that the oxidation catalyst is now characterized as the "first" oxidation catalyst. Actually, the sentence to which the

Examiner refers actually is contemplating "a first catalyst *carrier*" (emphasis added, see Alcorn '776, column 3, lines 13-14). In particular, Alcorn '776 states, "The first catalyst carrier is provided with an oxidizing catalyst and the second with a catalyst for the reduction of NO<sub>2</sub> by NH<sub>3</sub>." *Id.* Thus, Alcorn '776 does not disclose or suggest placing an oxidation catalyst as the "first" component in an exhaust system, but merely discloses that there are two catalyst carriers, the first one being provided with an oxidizing catalyst and the second one with a catalyst for the reduction of nitrogen oxides. This reference discloses a single oxidation catalyst and not a second or subsequent oxidation catalyst.

For completeness, the applicants note that the references were apparently confused by the Examiner at pages 9 and 10, paragraph 10, second and third paragraphs of the Office Action. There, the references to Frederiksen '528 should have been to Alcorn '776. This is clear based on the substance of the citation to column 3, lines 13 and 14 and because Frederiksen '528 is not arranged by columns. In addition, the characterization of Alcorn '776 in the most recent Office Action mentions that the SCR system catalysts can be located both down and upstream of the injection means, relying on column 4, lines 26-29. The applicants request clarification as to how this portion of Alcorn '776, which discusses flanges 11a and 12a, supports the proposition relied upon in the Office Action.

In sum, the applicants contend that the specific sequence of four of the main features of claims 1 and 7 (and thus all of the dependent claims) are clearly set out in the claims, contrary to the assertion in the most recent Office Action. Moreover, the Office Action relies on a misunderstanding of Alcorn '776, regarding the sequence of some of the features emphasized by the pending claims. Because the claimed order lends criticality to achieving the purposes of the present invention, as mentioned above and described in the application, the claims are patentable over the cited references.

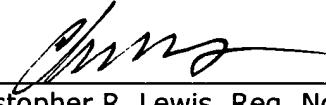
In view of the foregoing remarks and for all of the reasons set forth previously in the response dated March 31, 2003, the applicants assert that the present invention as claimed is not obvious in view of the cited references.

Application No.: 09/601,594  
Amendment Dated July 25, 2003  
Reply to Final Office Action of April 25, 2003

JMYT-217US

Accordingly, the applicants respectfully request withdrawal of these rejection and an indication of an allowance of all of the pending claims.

Respectfully submitted,

  
Christopher R. Lewis, Reg. No. 36,201  
Attorney for Applicants

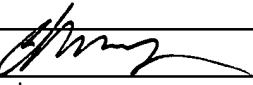
PAM/kak

Dated: July 25, 2003

P.O. Box 980  
Valley Forge, PA 19482-0980  
(610) 407-0700

The Commissioner for Patents is hereby authorized to charge payment to Deposit Account No. **18-0350** of any fees associated with this communication.

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail, with sufficient postage, in an envelope addressed to: Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on:

July 25, 2003  
Date 

Christopher R. Lewis

LRB\_I:\JMYT\217US\AMEND02.DOC